A NEW SPECIES AND FIRST RECORD OF *DILATOPS* WEIRAUCH (INSECTA: HETEROPTERA: MIRIDAE: PHYLINAE) FROM NEW CALEDONIA

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A new species of the leucophoropterine genus *Dilatops* Weirauch (Insecta: Heteroptera: Miridae: Phylinae), *D. monteithi* sp. nov., is described from New Caledonia. The species is illustrated, including features of the male genitalia. Comparisons are made with the type species *Dilatops fici* Weirauch and species of the genus *Lasiolabops* Schuh. ❐ *Heteroptera, Miridae, Phylinae, Leucophoropterini, Dilatops, new species, New Caledonia*

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Weirauch (2006) described a new genus of leucophoropterine, *Dilatops* Weirauch (Miridae: Phylinae), from Australia. The type species, *D. fici* Weirauch, is noteworthy because of its host plant association with species of *Ficus* (Moraceae), and its broad distribution in eastern Australia. The genus is significant because of its atypical features for a Phylinae: Leucophoropterini (e.g. its S-shaped vesica), which brings into question the monophyly of the tribe, and results in a putative relationship with another annectant taxon, the Afrotropical and Oriental genus *Lasiolabops* Poppius (Weirauch, 2006). Species of this latter genus are also associated with figs.

This work is based on the discovery of an additional species of *Dilatops* from New Caledonia collected by Dr Geoff Monteith of the Queensland Museum during his ongoing inventory of the true bug fauna of the island archipelago (Monteith et al., 2006). The Heteroptera of New Caledonia have not been well documented, although for some groups, such as the Tingidae (Guilbert, 2002), the situation is improving. For the Miridae, New Caledonia is very poorly known, with few existing collections and even fewer taxonomic treatments. The New Caledonian Phylinae are represented by only seven species (Schuh, 1984, 1995); two species of Leucophoropterini (*Sejanus ansevata* Schuh and *S. novocaledonicus* Schuh) and five species of Phylini (*Campylomma novocaledonica* Schuh, *C. nonnieae* Schuh and *C. scleptracantha* Schuh; *Malysianiris couleensis* Schuh and *M. novocaledonicus* Schuh). The new species of *Dilatops* described here represents the first record of the genus and an additional species of Leucophoropterini from New Caledonia, and is part of an ongoing effort to document the species rich but largely undescribed mirid fauna of the island.

TAXONOMY

Dilatops monteithi sp. nov.
(Fig. 1)

MATERIAL. HOLOTYPE: NEW CALEDONIA, ♂, Col d'Amieu, west slope, 21°37'S 165°49'E, 7 January 2005, G Monteith, MV light, rainforest (MNHN). PARATYPES: same data as holotype, 1♂, 1♀ (AM; QM).

DIAGNOSIS. Head strongly transverse (Fig. 1A), eyes semi-stalked, extending beyond anterolateral angles of pronotum (Fig. 1A); posterior margin of head strongly excavate; body orange-brown with stramineous markings; left paramere with anterior and posterior processes of equal length, and moderately large body (Fig. 1C); right paramere lanceolate (Fig. 1D); apex of phallotheca acute (Fig. 1E); vesica S-shaped, tapered apically, apex long and slender, with secondary gonopore medial and base of vesical body short (Fig. 1F).

DESCRIPTION. Moderately large, ovoid, macropterous.

Colouration. Body mostly orange-brown, with stramineous markings. Head: dark orange-brown; genae, gula, mandibular and maxillary plates and bucculae stramineous. Antennae: AI and AII stramineous; AIII and AIV dark brown. Labium: mostly stramineous with LIV fuscous. Pronotum: mostly dark orange-brown, with broad, submedial transverse stramineous band. Proepisternum:

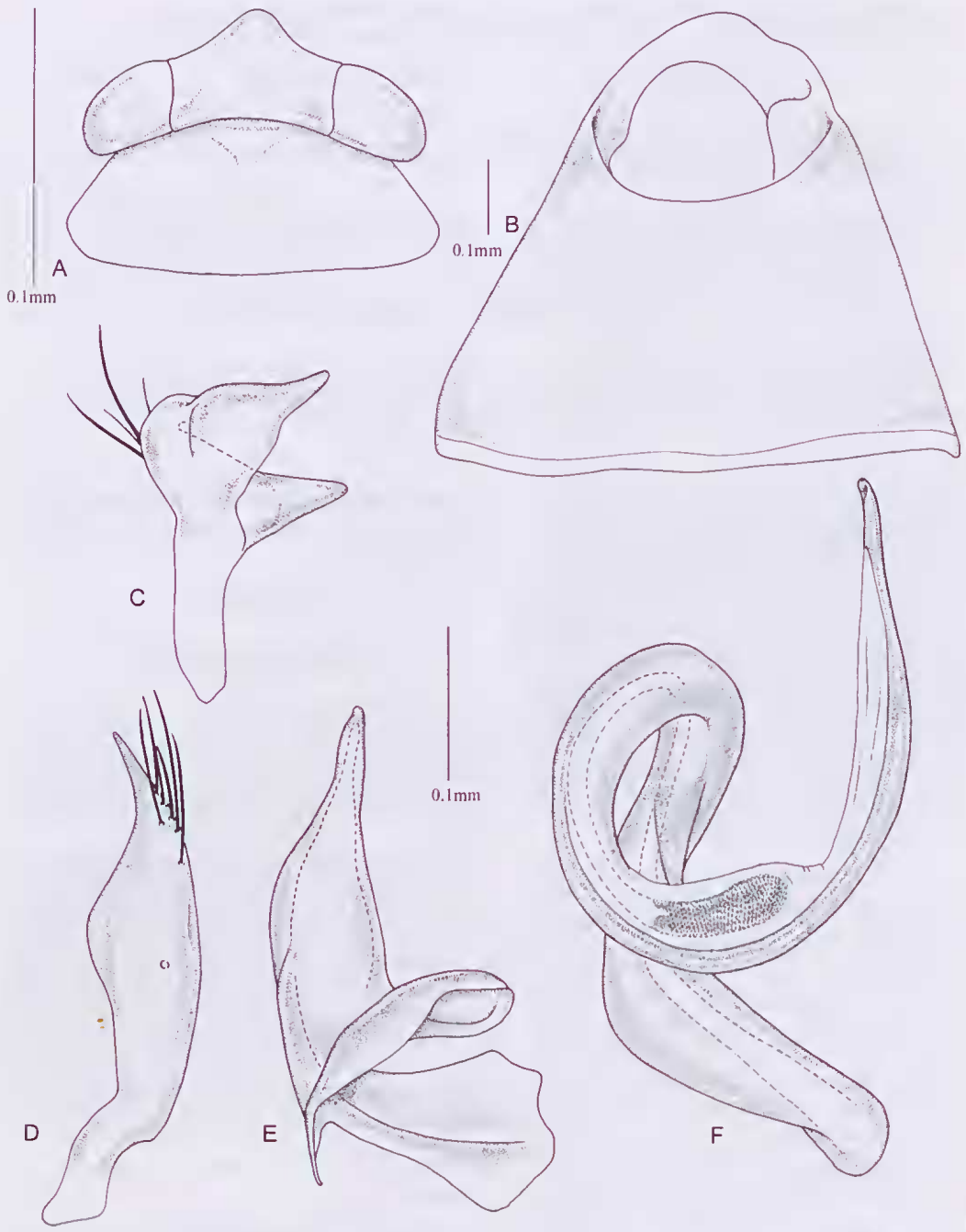

FIG. 1. *Dilatops monteithi* sp. nov. A, dorsal view of head and pronotum; B, dorsal view of pygophore; C, left paramere; D, right paramere; E, phallotheca; F, vesica.

stramineous with orange-brown highlighting. Pterothoracic pleura: dark brown, including efferent system of metathoracic glands. Mesoscutum: orange-brown. Seutellum: stramineous-brown, paler along midline and apex. Hemelytra: clavus and corium orange-brown, sometimes with weakly striped appearance; cuneus stramineous-brown, inner margins infused with red; membrane

smoky-brown. Legs: coxae bicoloured, proximally dark brown, rest stramineous; remainder of legs uniformly stramineous, sometimes with subdistal region of metafemora with red highlighting. Abdominal venter: uniformly dark brown.

Vestiture. Dorsum with uniform and dense distribution of elongate, pale, decumbent, simple setae. Abdominal venter: moderate distribution of same setae.

Texture. Impunctate, matt body; scutellum weakly rugulose.

Structure. Head: transverse (Fig. 1A), strongly declivent (clypeus not visible from above); frons + clypeus strongly tapered in anterior view; clypeus short, flat, coplanar with anterior aspect of frons; mandibular and maxillary plates small. Eyes: greatly enlarged, subpedunculate, occupying most of head in lateral view. Labium: elongate, just surpassing apices of metacoxae. Pronotum: subtrapezoidal, short, posterior margin rectilinear. Scutellum: elongate, weakly convex. Hemelytra: cuneus large. Pterothoracic pleura: metathoracic spiracle exposed, narrow, with evaporative bodies; efferent system of metathoracic glands well-developed, almost reaching mesepimeron, with semi-circular peritreme. Legs: femora fusiform; tibiae spinose. Male Genitalia. pygophore (Fig. 1B); left paramere with anterior and posterior processes of equal length, with prominent body (Fig. 1C); right paramere lanceolate with apex tapered and slightly bent (Fig. 1D), with prominent setae; phallotheca weakly sclerotised, strongly tapered apically (Fig. 1E); vesica strongly S-shaped, forming a single coil, with short base, apex very long and slender and strongly tapered, with secondary gonopore submedial (Fig. 1F). Female genitalia not examined.

DISTRIBUTION. Known only from the type locality; the western slope of the Col d'Amieu is a rainforest site. The species was collected at light and no information is known regarding its host associations.

REMARKS. This species is closely related to *Dilatops fici*, and despite the less pronounced eyes, agrees with the other diagnostic features of *Dilatops* given by Weirauch (2006). The eyes in *D. monteithi* are not as clearly pedunculate as in the type species, but they are none-the-less semistalked, with the head strongly transverse. Unlike *D. fici*, the eyes are not broader than the pronotal width across the humeral angles. In addition, the eyes in *D. monteithi* more distinctly overlap the anterior aspect of the pronotum. The heads of both species are more alike, with the frons and clypeus strongly narrowed, giving the head a pronounced triangular appearance when viewed from the front. The clypeus in both species is small, barely convex and coplanar with the adjacent areas of the frons. Other species-level differences are listed in (Table 1) and include the following character states in *D. monteithi*: i. darker colouration, being more orange-brown; iii. more medial position of the secondary gonopore of the male vesica; and, iv. anterior lobe of the left paramere less pronounced.

DISCUSSION. The Australian species, *Dilatops fici*, is found on three species of figs in eastern Australia (Weirauch 2006). In the Sydney region it is found in association with the psyllid *Mycopsylla fici* which can cause significant damage to Moreton Bay figs, *Ficus macrophylla*, in suburban parks (Froggatt, 1907; Hollis, 2004; Taylor and Carver, 1991). *Dilatops fici* has not been observed feeding, but it is possible that it preys upon the psyllid.

Dilatops monteithi has no host record, but it may also be associated with figs. *Ficus* is represented in New Caledonia by 31 species, most of which are endemic and found in rainforest (Jaffré et al., 2001). Figs are known from the Col d'Amieu site where *D. monteithi* was collected (Monteith *personal communication*) but were not intentionally sampled.

The systematic position of *D. monteithi* is a little contentious, as the species does not have strongly pedunculate eyes as found in *D. fici*. A comparison of the characters of both species of *Dilatops* and of *Lasiolabops* spp. is given in Table 1, and reveals that the two genera share features that are likely to be of phylogenetic significance. *D. monteithi*, although lacking the strongly pedunculate eyes of *D. fici*, is much more similar to that species than to any described species of *Lasiolabops*. The placement of *D. monteithi* requires a broadening of the definition of *Dilatops* to allow for the eyes to be sub-pedunculate, and the head width across the eyes to be less than the width of the pronotum across the humeral angle. This places greater importance in the characters of the vesica and left paramere in defining the genus. Beyond Weirauch's (2006) definition, the short and sub-rectangular pronotum, offers an additional diagnostic feature for *Dilatops*; the pronotum is much shorter than that found in species of *Lasiolabops*.

TABLE 1. Comparison of morphological character states of *Dilatops fici* and *D. monteithi* with *Lasiolabops* spp.

Dilatops fici	*Dilatops monteithi*	*Lasiolabops* spp.
Orange colouration	Orange-brown colouration	Dark colouration
Two types of setae	Simple setae only	Simple and adpressed setae
Eyes strongly pedunculate	Eyes sub-pedunculate	Eyes laterally produced, without pedunculate appearance
Eyes large in lateral view	Eyes large in lateral view	Eyes moderately-sized
Vertex concave	Vertex concave	Vertex flattened
Head broader than pronotum	Head subequal to pronotum	Head subequal to shorter than pronotum
Clypeus + (mandibular + maxillary plates) narrow	Clypeus + (mandibular + maxillary plates) narrow	Clypeus + (mandibular + maxillary plates) broad
Labium short	Labium elongate	Labium elongate
Pronotum short, subrectangulate	Pronotum short, subrectangulate	Pronotum more elongate, subtrapezoidal
Parempodia setiform, tapered	Parempodia setiform, tapered	Parempodia spatulate
Left paramere with dorsal lobe	Left paramere with dorsal lobe	Left paramere dorsal margin truncate
Vesica tapered, apex acute	Vesica tapered, apex acute	Vesica not tapered, apex hroad
Secondary gonopore subapical	Secondary gonopore in median position	Secondary gonopore apical

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LITERATURE CITED

FROGGATT, W.W. 1907. Australian Insects. (William Brook and Co.: Sydney)

GUILBERT, E. 2002. New data on New Caledonian Tingidae (Hemiptera) with descriptions of new species. In Najit, T. and Grandcolas, P. (eds) Zoologica neocaledonica 5. Systématique et endemisme en Nouvelle-Calédonie. Mémoires du Muséum National d'Histoire Naturelle Paris 187: 133-160.

HOLLIS, D. 2004. Australian Psylloidea: Jumping Plantlice and Lerp Insects. (Australian Biological Resources Study: Canberra)

JAFFRÉ, T., MORAT, P., VEILLON, J-M., RIGAULT, F. & DAGOSTINI, G. 2001. Composition and characteristics of the native flora of New Caledonia. (Institut de recherche pour le Développement: Noumea)

MONTEITH, G.B., BURWELL, C.J. & WRIGHT, S. 2006. Inventaire de l'Entomofaune de Quarte Reserves du Sud de la Novelle Calédonie. Unpubl. report to Direction des Ressources Naturelles, Nouméa: Queensland Museum, 136 pp, plus appendix.

SCHUH, R.T. 1984. Revision of the Phylinae (Hemiptera, Miridae) of the Indo-Pacific. Bulletin of the American Museum of Natural History 177(1): 1-476.

1995. Plant Bugs of the World (Insecta: Heteroptera: Miridae). Systematic Catalog, Distributions, Host List and Bibliography. (The New York Entomological Society: New York).

TAYLOR, K.L. & CARVER, M. 1991. Psylloidea. Pp. 448-450. In Naumann, I.D. (ed.) Insects of Australia. (Melbourne University Press: Melbourne).

WEIRAUCH, C. 2006. New genus and species of fig inhabiting Leucophoropterini (Heteroptera: Miridae: Phylinae) from Australia. Russian Entomological Journal. [in press]